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TOBACCO DISEASES IN GEORGIA IN 1928

The following report on tobacco diseases was prepared by R. G. Henderson of the Georgia State Board of Entomology, who based his estimates on frequent trips through the various counties of the bright-leaf tobacco section, and on inspections of warehouse floors, and also on curing tests in the case of root-knot, mosaic, and blackfire. The report was transmitted to the Survey by O. C. Boyd.

Blackfire (Bacterium angulatum). This disease was present in most of the tobacco growing sections, and was observed in from 50 to 60 per cent of the fields of at least six counties. The disease spread rapidly in some fields during the rainy periods of June, July and the first part of August, resulting in a uniform, heavy infection. In other fields, the spread was confined more or less to the rank-growing plants. Loss 3 to 4 per cent.

Root-knot (Caconema radicicola). Although this disease was less common and destructive than usual, yet at least 75 per cent of the fields surveyed showed marked evidence of its presence, and the loss in some few fields ran as high as 50 and 60 per cent. Evidently the unusually rainy season not only permitted the plant to tolerate the disease more than usual, but also reduced the amount of firing of leaves even on heavily affected plants. It is estimated that the total loss from root-knot was 15 to 20 per cent.

Mosaic (virus). Mosaic was observed in practically every field survey, and was considered more prevalent than in the ordinary season, especially the early stage or young plant infection. Curing tests conducted in Thomas County indicated an 18 per cent reduction in weight for mosaic leaves, and a total value loss of 55 per cent, as compared with

healthy leaves of the same fields. There was little damage from the usual rapid spread late in the cropping season.

Alternaria leaf-spot (Alternaria sp.) This leaf spot was more common than usual this year, occurring quite commonly on plants otherwise in good health, as well as on root-knot affected and otherwise impoverished plants. It was most noticeable during the latter half of the growing season. Estimated loss 5 to 6 per cent.

Frog-eye (Cercospora nicotianae). This leaf spot spread more rapidly than usual during the latter part of the season, causing considerable firing or scorching in the field, and was responsible for a marked discrimination in price on the floor. Estimated loss 7 to 8 per cent.

Ring spot (virus). This disease was observed in only one field in Thomas County, with 1 per cent infection early in the season, increasing finally to about 10 per cent.

Sore shin, stem rot (Sclerotium rolfsii, Rhizoctonia sp.). This type of injury was less common than in the ordinary year, and was pronounced only as secondary infection following root-knot injury.

Black shank (Phytophthora nicotianae). This disease was observed only occasionally throughout the tobacco section, and caused appreciable loss in only one field in Mitchell County.

Bacterial wilt or Granville wilt (Bacterium solanacearum) was observed as a very light infection in a single field in Thomas County. The grower reported that the field has been a truck garden in preceding years.

Storage damage. Due to the unusually wet season, there occurred considerable loss of the crop after curing in the way of damp, mouldy, and otherwise damaged tobacco resulting from faulty handling and storage. This loss was estimated at about 4 per cent.

TOBACCO DISEASES IN CANADA IN 1928

The following statement was received from T. G. Major, Tobacco Specialist, Dominion of Canada Department of Agriculture, September 20.

> Black root-rot (Thielavia basicola). Quite general in the cigar binder districts of Quebec owing to the cool weather conditions. The disease is now so generally distributed that the almost exclusive use of the Resistant Havana (No. 142) will be necessary in the future. In Ontario some loss resulted in the Burley and dark-fired sections.

Wildfire (Bacterium tabacum). The disease was found on over thirty farms in Rouville County, Quebec, as compared to six in 1927. Most of the infections were traced to one large producer of plants. One case of the disease was reported in Montcalm County, north of Montreal.

Angular leafspot (Bacterium angulatum). Considerable damage was caused in the Ontario and Quebec districts, the disease being more prevalent than usual.

Mosaic (virus). Less loss from this source than has been the case for several years.

Hollow stalk (Bacillus carotovorus). A few isolated cases were observed.

Sore-shin (Rhizoctonia solani). A single case was reported in Kent County, Ontario.

Damping-off (Pythium debaryanum). Considerable loss in Quebec owing to faulty methods of seedbed management.

Leaf-drop (Cause unknown). Quite heavy losses on the bottom lands in the Okanagan Valley, British Columbia.

Frenching (Cause unknown). About the usual amount of damage.

SOME OBSERVATIONS ON LIMA BEAN DISEASES ON THE MARYLAND EASTERN SHORE

W. A. Whitney, Office of Vegetable and Forage Diseases has kindly furnished the following notes on lima bean diseases:

On August 28-30, 1928, a short survey trip to the Eastern Shore of Maryland was made where lima beans in Somerset, Dorchester, Caroline, and Talbot Counties were inspected for diseases. Two diseases predominated throughout this region and for the most part, were apparently causing little or no damage, although the percentage of plants affected was high. Bacterial spot, caused by Bacterium vignae, and pod blight, caused by Diaporthe phaseolorum were present in practically all fields with the former the more abundant. Pod blight, in this case almost a misnomer, was present on the pods but more general on the leaves. Only one field at Princess Anne was seen where the pod blight was the cause of any damage, and here the complications of adverse season and diseases necessitated a premature cutting of the crop, reducing the yield approximately 50 per cent.

Due to the unusual rainfall of August many fields with low places showed effects of the rain; the plants were chlorotic and small, the severity varying from practically normal plants to those actually killed

by drowning. In fields where the drainage was none too good, Rhizoctonia, presumably R. solani, root rot was common but at the time of the inspection was apparently affecting the plants but little.

Bean blight, caused by Bacterium phaseoli, was present in many fields, but causing little if any damage on the lima bean leaves, but it was not observed on the pods.

The yeast spot, caused by Nematospora phaseoli, which was reported by Jehle (Plant Dis. Reptr. 11 (12): 149. 1927) as occurring in Worcester County, was not observed. Phytophthora phaseoli, the cause of the downy mildew, was not observed in spite of condtions obtaining during the month which might a priori be thought to be conducive to mildew development.

The major problem of the growers on the Eastern Shore of Maryland, like bean growers generally, is the control of the Mexican bean beetle (Epilachna corrupta) which is making its presence known quite generally this year and which bids fair to become an even more serious pest in another season. Many growers are equipping themselves with dusting machinery and the recommended calcium arsenate-lime dust. With the widespread occurrence of fungous diseases, which are no doubt this year increased by the wetness of the season, the question has been raised whether it might not be advisable to add some copper salt to the mixture employed against the Mexican bean beetle.

LIMA BEAN ANTHRACNOSE (COLLETOTRICHUM LINDEMUTHIANUM) IN GEORGIA

" A 20-acre planting of fall limas in Grady County varying in age from two weeks to four weeks, showed Colletotrichum infection throughout. The latest planting of about five acres is a total loss due to this fungus which caused both defoliation and severe stem-rot. The remainder apparently will suffer at least a 25 per cent loss. The entire acreage was in the same crop shortly prior to the fall seeding. It has been unusually wet and cool during August and September. (O. C. Boyd, Sept. 15).

PEANUT DISEASES REPORTED FROM FLORIDA

The following report was received from G. F. Weber, October 1.

Rhizoctonia (Corticium vagum). Common in local places in fields, not of importance.

Southern blight, (Sclerotium rolfsii). Not so prevalent as last year, nevertheless common and usually found in most fields.

Leaf-spot, (Cercospora personata). Common and widespread wherever the crop is grown, often causing from 10 to 40 per cent defoliation at this time of the year.

COTTON DISEASES IN NEW MEXICO

R. F. Crawford sent in the following report, September 1.

"Wilt (Fusarium vasinfectum). General throughout the cotton producing areas of the state. Loss quite considerable in lower Rio Grande Valley.

Angular leaf spot (Bacterium malvacearum). Not as widespread or severe as previous years. Considerable seed delinted.

Texas root-rot. (Phymatotrichum omnivorum). This disease is spreading rapidly in the Pecos and Mesilla Valleys.

Sore shin (Corticium vagum). Heavy loss in certain areas early in the spring."

SOME REPORTS ON TOMATO DISEASES

Massachusetts: Verticillium wilt common --many fields destroyed by September 1. This is a serious wilt of tomatoes in Massachusetts, both in the field and greenhouse. (E. F. Guba, Sept. 15).

New Mexico: Curly top, (Western yellow blight) not as severe as previous years. Heaviest loss in Mesilla Valley. Other tomato producing sections of the state little affected.

Wilt, (Fusarium lycopersici) severe in Eastern part of New Mexico in Portales district. Resistant sorts tried out this year with favorable results. (R. F. Crawford, Sept. 1).

Arizona:- Curly top (Western yellow blight). Tomato loss 25 per cent on 10 acres in Pima County, August 10; 15 per cent on 800 acres in Maricopa County, July 13; first appearance May 10; 3 per cent in Cochise County, June 18. (R. B. Streets, October 1).

LATE BLIGHT TUBER ROT (PHYTOPHTHORA INFESTANS) IN WISCONSIN

"Considerable rot is being reported from the lake-shore and northeastern potato sections. Unsprayed fields show much more rot than sprayed fields. (R. E. Vaughan, October 1).

MISCELLANEOUS NOTES ON DISEASES OF VEGETABLE CROPS

Massachusetts: E. F. Guba, Sept. 15).

Celery late blight (Septoria apii). Very serious generally. Heavy losses anticipated.

Wilt of eggplant (Verticillium albo-atrum). First appearance July 25. On August 8 very prevalent in many plantings. New York Purple very susceptible. On September 17, 90 per cent of plants affected.

Downy mildew of cucumber (Pseudoperonospora cubensis). Very common. Small planting at Waltham destroyed.

White spot of onion (cause unknown). Injury in some respects similar to thrips injury, but cause physiological. Severe on White Portugal variety grown for pickling.

New Mexico: (R. F. Crawford, Sept. 1).

Powdery mildew of peas (Erysiphe polygoni). Not as severe as last year. The disease appeared later in the season than previous years. Treating the seed with hot water and dusting with sulphur will control the disease.

Anthracnose of watermelon (Colletotrichum lagenarium) Very severe this year. Seed treatment apparently had no effect. Bordeaux mixture gave good control if applied soon enough , but whole fields were destroyed overnight.

Cucumber mosaic (virus). Unusually severe especially on the fruit. Symptoms on fruit and not on vines.

Curly top of sugar beet (virus). For some reason or other the sugar beet crop was not attacked by curly top as in previous years. Condition of crop excellent.

DISEASES OF CORN AND OF SORGHUM REPORTED FROM KANSAS

The following reports were sent in by C. O. Johnston, (Sept.15).

Corn

Ear rot (Diplodia zeae). Only a very small amount can be found in the vicinity of Manhattan. It is still too early to make a definite report for the state.

Black bundle (Cephalosporium acremonium). A very small amount of black bundle disease has been found in the river valleys of northeastern Kansas.

Brown spot (Physoderma zeae-maydis). Considerable brown spot has been noted in bottom-land fields in the vicinity of Manhattan. Some fields show 5 to 10 per cent infection of leaf sheath bases and considerable breaking of stalks at the nodes is due to brown spot stalk infection.

Sorghum

Covered kernel smut (Sphacelotheca sorghi). To date only a moderate amount of this smut has been reported in Kansas this year. It is still too early to make a final report.

Head smut (Sorosporium reilianum). Head smut is present in the state in very small amounts only. A few heads have been seen in sorgos as far east as Manhattan.

Rust (Puccinia purpurea). Rust infection on sorghum has become general in the vicinity of Manhattan. Feterita is heavily infected and the lower leaves prematurely dried up by rust. The milos are very resistant.

Bacterial stripe (Bacterium andropogoni). A moderate amount of stripe is present in Kansas. Certain varieties such as Feterita, Hegari, White Durra, Freeds Sorgo, and Manchu Brown Kaoliang are severely attacked while the milos and kafirs are free from the disease or only very lightly attacked.

EAR ROT AND RUST ON CORN IN NORTH DAKOTA

Ear rot, (Fusarium moniliforme) common on corn this year, especially in Eastern section of state where rains have so frequently occurred during the month of September.

Rust, (Puccinia sorghi). Unusually severe in Cass County and is causing damage in some very susceptible strains. (W. E. Brentzel, Sept. 24).

LEAF BLIGHT OF CORN IN WEST VIRGINIA

Leaf blight (Helminthosporium turcicum) occurs throughout the state. The majority of the leaves are blighted in many fields in central and southern portions of the state. (W. A. Archer, Sept. 15).